



## Tennessee Occupational Safety and Health Surveillance and Activities Program (TN-OSHSAP)

### Annual Report: July 2015 – June 2016

Tennessee Department of Health (TDH)  
Occupational Health and Safety Surveillance Program (Fundamental Program)

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**Summary** The State of Tennessee collects significant data related to occupational injuries, illnesses, hazards, and exposures to monitor trends. Concurrently, health data is collected, interpreted, and analyzed on an ongoing basis. This program continues to progress this data collection toward a public health surveillance program with a strong occupational health and safety (OH) focus. We are already working to collect data on occupational illness and injury in a shared environment, web-based, data system. A concurrent use of SAS High-Performance Analytics will enable the program to create more salient analytic solutions from what would otherwise be a daunting amount of data in multiple, separate systems on various servers. By processing large data sets in parallel, the program will be able to calculate vital OH indicators enabling surveillance, intervention by stakeholders, learning, and research support at an innovative level. SAS Visual Analytics (VA) adds to existing descriptive and predictive analytics. VA will allow a web-based, easily accessible analytics and rich, interactive data visualizations.

### Major Outputs/Products

#### State-based Surveillance Data

Reported Tennessee's 2013 data for 17 of 24 Occupational Health Indicators to NIOSH for publication by the Council of State and Territorial Epidemiologists (CSTE).

#### Presentations and Outreach Events

2015 NIOSH/State Occupational Lung Disease Surveillance Meeting on September 14-16, 2015 in Denver, Colorado - This invitation-only event was for states that conduct sentinel surveillance for occupational respiratory disease. The NIOSH/State Occupational Lung Disease Surveillance Meeting provided opportunities for the exchange of important programmatic and scientific information and allows interaction between multiple states.

CSTE Occupational Health Subcommittee Meeting in conjunction with the NIOSH Partners Meeting November 30-December 3, 2015 in Cincinnati, Ohio - Participation in this meeting allowed Dr. Kimberly Glenn to meet with state-level occupational safety and health professionals where new program initiatives and resources are presented and common issues discussed. Some of the specific session topics included:



Overview of the Health Hazard Evaluation Program, Opportunities for Multi-State Initiatives, BRFSS Updates, Heat-Related Stress, Transportation-related fatalities, Lead exposure, and other health issues.

5th Annual Southeastern States Occupational Network (SouthON) Meeting on March 7-10, 2016 in New Orleans, Louisiana: The SouthON goal is that in collaboration with state health departments, the National Institute for Occupational Safety and Health (NIOSH), the Occupational Safety and Health Administration (OSHA), the Council of State and Territorial Epidemiologists (CSTE), Regional Occupational Safety and Health Education and Research Centers (OSH ERC), and other occupational safety and health partners, SouthON fosters and increases capacity for surveillance of work-related injuries and illnesses at the state and regional level. The annual meeting was an opportunity for Dr. Glenn to collaborate with member states and occupational health partners to network, build relationships, attend training sessions, and gain best practice ideas and information. Also, Dr. Glenn represented Tennessee in the first year as a member, which allowed additional opportunities to present Tennessee's plans and proactively participate in the direction of the organization in the future.

Council of State and Territorial Epidemiologists (CSTE) Annual Conference on June 18-22, 2016 in Anchorage, Alaska: The CSTE Annual Conference is one of the most recognized meetings among epidemiologists in the nation. Dr. Kimberly Glenn attended on behalf of our program and was able to discuss a variety of current OH topics as well as collaborate with member and non-member states on methodology used in OH analyses. This meeting was also important in identifying potential partners and exploring collaborations for the next grant year.

### **Partnerships/Capacity Building**

Currently, our program has been included in partnerships both in-state and regionally. The Tennessee program has partnered with members of SouthON and contributed to the analysis of inpatient data for heat illness events, and mortality data for fatal injuries within the southeastern United States. Future collaborations are forthcoming.

Preliminary meetings have been had with the Tennessee Board of Regents (TBR) and their section of technical colleges to determine how best to disseminate occupational safety and health information to the students being trained in these programs. We expect that the staff associated with this project will work with TBR to develop competent, industry/occupation-specific materials to educate the arising workforce.

### **Outcomes**

Our Occupational Health Indicators (OHI) report (attached) includes the most current data requested by NIOSH. Tennessee has data available through 2014 for further and future indicator calculation.

While only in the initial year, the program shows promise in informing policy change particularly in the private sector, which may not be aware of potential patterns and is keenly interested in improving worker safety given the close ties to the community of many Tennessee employers and the associated visibility. We will be focusing our efforts on ensuring we are providing employers with information necessary to assist with their training and building relationships. We have identified a potential for several future research efforts working in conjunction with academic partners and/or other state agencies to provide proper surveillance identifying at-risk populations or occupational hazards.

### **Potential Outcomes:**



NIOSH's industry and occupation (I/O) questions were moved closer to the demographic questions in partnership with the Tennessee's Behavioral Risk Factor Surveillance Survey (BRFSS) program and administered in this order for 2016. Preliminary analysis indicates that these data can potentially be used to identify workers in industries and occupations that would most benefit from the future efforts, showcase potential opportunities for worksite wellness/health promotion programs, and identify occupations and industries that are prime candidates for safety interventions (e.g. seatbelt use policies).

### **Intermediate Outcomes:**

We presented Tennessee OHI data and program overviews at various conferences and meetings throughout the year.

Reports will be posted on the Tennessee Department of Health website (<http://www.tn.gov/health>) Preliminary functionality is in place for consumers to readily request any of our datasets <https://www.surveymoz.com/s3/1879037/DATA-REQUEST-FORM>. Efforts are underway to improve this access and process. Researchers also may complete our IRB process online via <https://www.irbnet.org/release/index.html>.

We are finalizing our pilot research study to investigate non-fatal and fatal injuries among agriculture workers –particularly tractor injuries. Data from the Tennessee Labor and Workforce Development indicate there is a lack of methodology for identifying these types of injuries. Our program will seek to develop a methodology for identifying these injuries in a reliable manner and providing useful statistics.

We are developing infographics and other educational items for the distribution among technical training programs. These materials will be constructed using current data specific to Tennessee. We are targeting the industries of automotive repair, countertop and bathtub refinishing, construction, and agricultural workers. Each of the educational campaigns will be specific to the industry. The main and first produced infographic will be produced regarding heat illness and warning signs. Data and current literature support heat illness as a significant issue for Tennessee and the Southeastern region.

We are in the preliminary/planning stages of a project with the Tennessee Highway Safety group that will examine highway safety conditions and work-related motor vehicle accidents across the state. This project will take into account road conditions, structures, speed limits, and volume by using ArcGIS software and techniques, while utilizing inpatient, emergency department and outpatient data for injury identification.

### **End Outcomes**

Current OHI data demonstrate stable numbers and rates of most occupational injuries and illnesses in Tennessee. One notable exception is injury fatalities; preliminary surveillance indicates an increase in these deaths for 2013. We will continue to monitor trends in OHI data, attempt to understand fluctuations, and work with partners to identify interventions that will prevent future injury and illness.



## **Publications**

There are several areas of interest for the development of information into publications. Of interest are existing publications such as DHHS (NIOSH) Publication Number 2015-100, *Ergonomic Solutions for Retailers* with highlights of Tennessee specific highlights to influence interest levels. This publication along with NIOSH/CalOSHA booklet, *Ergonomic Guidelines for Manual Material Handling (2007-131)* is being explored as inspiration for a large supply chain warehouse related publication given the large number in Tennessee.

Our epidemiologists collaborated with the Southeastern Occupational Health Network (SouthON) to examine the incidence of fatal work-related injuries in the southeastern United States. This work contributed to a better understanding of the risk factors associated with fatal work-related injuries and how those risk factors may differ in this region compared to other regions across the nation. The study determined that transportation incidents were most strongly associated with work-related injury fatalities and spurred the increased collaboration at the state-level with our Injury Surveillance System (ISS). The ISS focuses on motor vehicle accident (MVA)-related accidents and highway safety evaluation. This strong partnership will allow for a more in-depth analysis of Tennessee-specific dangers on our roadways and help us reach out to stakeholders to work toward mitigating these factors.

The Tennessee Department of Health has drafted two reports which are scheduled for release this fall. The first report examines work-related injury hospitalizations and the second will focus on MVA-related injuries which result in hospitalization. Recently, an abstract has been accepted for presentation at the Tennessee Public Health Association 2016 meeting that investigated the rate of and demographic factors associated with work-related amputations across the state.